#### **CLAIMS**

#### What is claimed is:

1 1. A composition of matter comprising a compound of the structural formula:

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wherein

- - $R_1$  is  $C_8$  to  $C_{22}$  alkyl,  $C_8$  to  $C_{22}$  alkenyl,  $C_8$  to  $C_{22}$  ester alkyl,  $C_8$  to  $C_{22}$  ester alkenyl,  $C_8$  to  $C_{22}$
- amido alkyl, or  $C_8$  to  $C_{22}$  amido alkenyl;
- Q is  $C_pH_{2p}O$ ;
- n is an integer of from 0 to 60; 11
- 12 p is an integer of from 2 to 4;
- R<sub>2</sub> is hydrogen, alkyl or ester alkyl of from 1 to 22 carbon atoms, or Q<sub>1</sub>; 13
- 14  $Q_1 \text{ is } (C_p H_{2p} O)_{n1} H;$
- R<sub>3</sub> is hydrogen, alkyl of from 1 to 22 carbon atoms, or Q<sub>2</sub>; 15
- $Q_2$  is  $(C_pH_{2p}O)_{n2}H$ ; 16
- 17 R<sub>4</sub> is hydrogen, alkyl of from 1 to 22 carbon atoms, or Q<sub>3</sub>;
- $Q_3$  is  $(C_nH_{2n}O)_{n3}H$ ; 18
- R<sub>5</sub> is hydrogen, alkyl of from 1 to 22 carbon atoms, oxygen, betaine, amido amine, polyamine, 19
- 20 polyamine alkoxylate, fatty amine, or Q4;

- 21  $Q_4$  is  $(C_pH_{2p}O)_{n4}H$ ;
- 22 n1, n2, n3, and n4 are independently selected from the group consisting of integers of from 1
- 23 to 60;
- 24 X is a counterion selected from the group consisting of species generated from mineral or
- 25 organic acids;
- 26 m is 0 or 1; and
- 27 z is 1 to 4.
  - 2. A method of making a compound of the structural formula:

$$R_{1} = \begin{bmatrix} H_{2} & H_{2} & (R_{5})_{m} \\ C & H & C \\ Q)_{n} & C & R_{4} \end{bmatrix}$$

$$(X)_{m}$$

7 wherein

- $R_1$  is  $C_8$  to  $C_{22}$  alkyl,  $C_8$  to  $C_{22}$  alkenyl,  $C_8$  to  $C_{22}$  ester alkyl,  $C_8$  to  $C_{22}$  ester alkenyl,  $C_8$  to  $C_{22}$
- 9 amido alkyl, or  $C_8$  to  $C_{22}$  amido alkenyl;
- 10 Q is  $C_pH_{2p}O$ ;
- n is an integer of from 0 to 60;
- p is an integer of from 2 to 4;
- 13  $R_2$  is hydrogen, alkyl or ester alkyl of from 1 to 22 carbon atoms, or  $Q_1$ ;
- 14  $Q_1 \text{ is } (C_p H_{2p} O)_{n1} H;$
- R<sub>3</sub> is hydrogen, alkyl of from 1 to 22 carbon atoms, or Q<sub>2</sub>;

- 16  $Q_2 \text{ is } (C_p H_{2p} O)_{n2} H;$
- R<sub>4</sub> is hydrogen, alkyl of from 1 to 22 carbon atoms, or Q<sub>3</sub>; 17
- $Q_3$  is  $(C_n H_{2n} O)_{n3} H$ ; 18
- R<sub>5</sub> is hydrogen, alkyl of from 1 to 22 carbon atoms, oxygen, betaine, amido amine, polyamine, 19
- polyamine alkoxylate, fatty amine, or Q4; 20
- $Q_4$  is  $(C_pH_{2p}O)_{n4}H$ ; 21
- n1, n2, n3, and n4 are independently selected from the group consisting of integers of from 1 to 60;
  - X is a counterion selected from the group consisting of species generated from mineral or organic acids;
  - m is 0 or 1; and
    - z is 1 to 4;
- wherein the method comprises reacting a first compound selected from the group consisting of
  - alcohols, alcohol alkoxylates, amidoalcohols, amidoalcohol alkoxylates, amidoamines,
- amidoamine alkoxylates, fatty acids, fatty acid alkoxylates, and mixtures thereof with 30
- epichlorohydrin under acidic or basic conditions to produce a glycidyl ether or a glycidyl ester; 31
- then reacting the glycidyl ether or glycidyl ester with a second compound selected from the 32
- group consisting of amines, amidoamines, amidoamine alkoxylates, and amine alkoxylates to 33
- produce a desired compound. 34

#### An article of manufacture comprising a compound of the structural formula: 3.

R<sub>2</sub> is hydrogen, alkyl or ester alkyl of from 1 to 22 carbon atoms, or Q<sub>1</sub>;

R<sub>3</sub> is hydrogen, alkyl of from 1 to 22 carbon atoms, or Q<sub>2</sub>;

R<sub>4</sub> is hydrogen, alkyl of from 1 to 22 carbon atoms, or Q<sub>3</sub>;

polyamine alkoxylate, fatty amine, or Q4;

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$$R_1$$
 is  $C_8$  to  $C_{22}$  alkyl,  $C_8$  to  $C_{22}$  alkenyl,  $C_8$  to  $C_{22}$  ester alkyl,  $C_8$  to  $C_{22}$  ester alkenyl,  $C_8$  to  $C_{22}$  amido alkyl, or  $C_8$  to  $C_{22}$  amido alkenyl;

Q is  $C_pH_{2p}O$ ;

 $Q_1 \text{ is } (C_p H_{2p} O)_{n1} H;$ 

 $Q_2$  is  $(C_n H_{2n} O)_{n2} H$ ;

 $Q_3$  is  $(C_pH_{2p}O)_{n3}H$ ;

n is an integer of from 0 to 60;

p is an integer of from 2 to 4;

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 $Q_4$  is  $(C_nH_{2n}O)_{n4}H$ ;

n1, n2, n3, and n4 are independently selected from the group consisting of integers of from 1 22 23

 $\mathbf{R}_{5}$  is hydrogen, alkyl of from 1 to 22 carbon atoms, oxygen, betaine, amido amine, polyamine,

- X is a counterion selected from the group consisting of species generated from mineral or
- 25 organic acids;
- 26 m is 0 or 1; and
- 27 z is 1 to 4.

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- 1 4. The article of manufacture of claim 3 wherein said article is an agricultural formulation.
  - 5. The article of manufacture of claim 3 wherein said article is selected from the group consisting of hand detergent bars, hair shampoos, rug shampoos, and hand dishwashing detergents.
  - 6. The article of manufacture of claim 3 wherein said article is an industrial and institutional cleaner.